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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,384	08/21/2003	Thomas Weiss	FIS920030045US1	8083
29505	7590	08/03/2006	EXAMINER	
DELIO & PETERSON, LLC 121 WHITNEY AVENUE NEW HAVEN, CT 06510			TALBOT, BRIAN K	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/645,384

Applicant(s)

WEISS ET AL.

Examiner

Brian K. Talbot

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 24-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/21/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. Applicant's election of Group I, claims 1-23, in the reply filed on 5/25/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 24-31 have been withdrawn from consideration as being directed toward a non-elected invention. These claims should be canceled in response to the Office Action.

### *Specification*

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The active claims of record are directed toward a process or method of dispensing material and not directed toward the apparatus as is now recited.

### *Claim Rejections - 35 USC § 103*

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3-11 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blette et al. (5,186,982).

Blette et al. (5,186,982) teaches a pin transfer applicator and method whereby dispensing small quantities of liquid material onto a workpiece. The assembly includes an applicator having a pin moveable along a passageway from a retracted position to an extended position. As the pin moves to the extended position, a forward end of the pin picks up a small dot of liquid material and carries the dot to a position external of the housing of the applicator and into contact with a workpiece. The pin is retracted and a dot remains on the workpiece (abstract). The applicator includes a housing (12), a chamber (14) and a passageway (16) that leads from the chamber to the housing. A pin (22) is located in the passageway in communication with the passageway and the reservoir of liquid material (36). The retraction of the pin (22) deposits liquid material on the workpiece and a portion remains on the end of the pin (22). The liquid material is solder paste. Blette et al. (5,186,982) depicts a sliding seal being created between the punch and the orifice, i.e. the pin being substantially the same size of the passageway (see Figures).

Claims 1,3,4,6-11 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks (6,915,928).

Brooks (6,915,928) teaches a fluid dispenser having as nozzle defining a chamber and a dispensation orifice which communicates with the chamber. A transfer pin is moveably received within the chamber and moveable between a retracted position and a dispensing position. In the dispensing position, a portion of the contact end extends out of the chamber through the dispensation orifice (abstract). The quantity of liquid material is directed into the chamber defined by the nozzle. A transfer pin is moved toward a substrate through the chamber whereby the transfer pin carries an amount of liquid from the chamber to the substrate and then retracted the transfer pin to a retracted position within the chamber (col. 3, lines 30-50). The coating material is an adhesive.

Claims 1,3-11 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryning et al. 2001/0009136.

Bryning et al. 2001/0009136 teaches an apparatus and method for spotting a substrate by dispensing a small volume of a selected material. The device includes a tube adapted to contain liquid. An elongated fiber is disposed within the tube from axial movement therein between a raised and lowered positions to dispense a spot of liquid material on a substrate. Bryning et al. 2001/0009136 depicts a sliding seal being created between the punch and the orifice, i.e. the pin being substantially the same size of the passageway (abstract and Figs. 7a-7e).

With respect to claims 6-8, the claims recite diameter size of the dispensed material. It is the Examiner's position that this is a "result effective" variable that can be optimized by one skilled in the art. Therefore, it has been well settled that the mere "optimization" of well-known

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“result effective” variables is deemed as an obvious modification of the prior art absence a showing of unexpected results.

With respect to claims 14-16 and 19 which recite controlling and/or adjusting the spacing/distance of the punch from the orifice to control the shape/amount of deposited material. Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 all teach some sort of “controlling mechanism” to ensure proper dispensing of the liquid material. Therefore, it is the Examiner’s position that one skilled in the art at the time the invention was made would have had a reasonable expectation of achieving similar results with the claimed controlling mechanisms as it has been well settled that the mere substitution of one well known process for another that performs the same function would be obvious without the showing of unexpected results garner therefrom.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 in combination with Bibeault et al. (6,775,879).

Features described above concerning the teachings of Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 are incorporated here.

Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 fail to teach cleaning the pin to remove residual coating material.

Bibeault et al. (6,775,879) teaches a needle cleaning system utilized for liquid dispensing systems that dispenses a quantity of material through a dispensing needle or transfer pin process (abstract).

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Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified either pin process of Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 to incorporate a pin cleaning step as evidenced by Bibeault et al. (6,775,879) with the advantages of maintaining a clean pin for controlling the desired proper dispensing material.

Claims 20,22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 in combination with Hess et al. (2003/0119193).

Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 fail to teach a calibrating step of measuring the size of the droplets.

Hess et al. (2003/0119193) teaches a system and method for high throughput screening of droplets. The size of the droplet dispensed or other characteristics of the droplet is measured and parameters of the dispenser can be adjusted accordingly. Calibration of numerous droplets can be measure to include variance and standard deviation of the droplets ([0112-0113]).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 dispensing process by including a calibration step as evidenced by Hess et al. (2003/0119193) with the expectation of maintaining a properly dispensed dot.



Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 in combination with Hess et al. (2003/0119193) further in combination with Bibeault et al. (6,775,879).

Features described above concerning the teachings of Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 are incorporated here.

Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 in combination with Hess et al. (2003/0119193) fail to teach cleaning the pin to remove residual coating material.

Bibeault et al. (6,775,879) teaches a needle cleaning system utilized for liquid dispensing systems that dispenses a quantity of material through a dispensing needle or transfer pin process (abstract).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified either pin process of Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 in combination with Hess et al. (2003/0119193) to incorporate a pin cleaning step as evidenced by Bibeault et al. (6,775,879) with the advantages of maintaining a clean pin for controlling the desired proper dispensing material.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 in combination with Banno et al. (6,761,925) or Speakman (6,503,831).

Features described above concerning the teachings of Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 are incorporated here.



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Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 in fail to teach forming a line or filling a via.

Banno et al. (6,761,925) or Speakman (6,503,831) both teach using droplet deposition techniques to form circuit lines within a via (abstract and Figures).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified either pin process of Blette et al. (5,186,982), Brooks (6,915,928) or Bryning et al. 2001/0009136 to form a line or fill a via as evidenced by Banno et al. (6,761,925) or Speakman (6,503,831) with the expectation of achieving similar success.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Brian K Talbot  
Primary Examiner  
Art Unit 1762

BKT